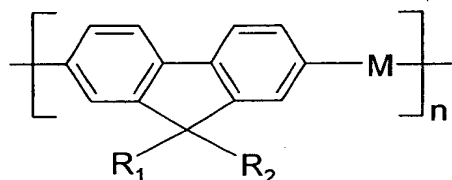


ABSTRACT

The invention provides photoluminescent markers consisting essentially of fluorene copolymers, which are colorless or nearly colorless to the naked eye and exhibit strong photoluminescence between about 380-800 nm upon exposure to ultra-violet radiation or laser light. The soluble fluorene copolymers described in this invention having a general formula as shown in Formula 1.



Formula 1

where:

- R_1 and R_2 are $C_1 - C_{24}$ linear or branched alkyl chain.
- n is the number of repeating unit.
- M is a co-monomer unit having structures chosen to impart distinct physical or chemical properties to the marker. Also provided in the present invention are methods of use of the markers for tagging solid or liquid products and methods to detect said markers.